

REMARKS

In the Office Action dated May 20, 2010, the Examiner rejects claims 1-10 and 15-18 under 35 U.S.C. §103(a). With this Amendment, Applicants have amended claims 1 and 3. Claim 13 was previously canceled. Claims 11, 12 and 14 were previously withdrawn in response to a restriction requirement. After entry of this Amendment, claims 1-12 and 14-18 remain pending in the Application. Reconsideration of the Application as amended is respectfully requested in light of the remarks below.

Response to rejections under 35 U.S.C. §103(a) based on Scherson

Claims 1-3 are rejected under 35 U.S.C. §103(a) as being unpatentable over Scherson (WO 01/80338). Claim 1 (and claims 2 and 3 by their dependency) recites a method for manufacturing an electrode layer comprising forming one of a positive and negative electrode layer by ejecting droplets of a first electrode ink composition from a first nozzle of an inkjet device onto a base material, the first electrode ink composition including at least one electrode active material in a solvent matrix; and ejecting droplets of a second electrode ink composition from a second nozzle of the ink jet device onto the base material, the second electrode ink composition including at least one binder material in a solvent matrix. The claim has been amended to clarify that one electrode layer, which can be an anode layer or cathode layer depending on the active material, is formed by using two different nozzles for the material recited in the claim. Support for this change is found in at least paragraphs [0033], [0040], [0043], [0045] and [0049].

Scherson discloses using an ink jet nozzle to apply each of an anode, electrolyte and cathode. There is no disclosure of using two nozzles to apply two separate mixtures of components resulting in a single anode or cathode layer. It would not be obvious to increase the amount of nozzles required and to nearly double the manufacturing process in Scherson to one skilled in the art as Scherson discloses the use of the ink jet system for microbatteries, which use smaller size particles well below 1 μ m, which is smaller than those used in commercial Li-ion batteries such as those made by Applicants' method. (Pg. 8, ll. 1-4).

Accordingly, the method of claim 1 and claims 2 and 3 by at least their dependency is not rendered obvious by Scherson. Applicants respectfully submit that claims 1-3 are thus allowable over Scherson.

Response to rejections under 35 U.S.C. §103(a) based on Ito and Scherson

Claims 1-6, 8, 10 and 15-18 are rejected under 35 U.S.C. §103(a) as being unpatentable over Ito (US 2005/0116375) in view of Scherson (WO 01/80338). Claim 1 (and claims 2-6, 8, 10 and 15-18 by their dependency) recites a method for manufacturing an electrode layer comprising forming one of a positive and negative electrode layer by ejecting droplets of a first electrode ink composition from a first nozzle of an inkjet device onto a base material, the first electrode ink composition including at least one electrode active material in a solvent matrix; and ejecting droplets of a second electrode ink composition from a second nozzle of the ink jet device onto the base material, the second electrode ink composition including at least one binder material in a solvent matrix.

Ito discloses a method of making an electrode comprising mixing conductive particles in surfactant and water, dispersing activated carbon into the mixture, and mixing binder into the mixture. This mixture is applied to the substrate. First, like Scherson, Ito fails to disclose using two separate mixtures and applying the two mixtures separately to form an electrode. Second, Ito fails to disclose the use of an active material in a solvent mixture required as the first electrode ink. Ito discloses mixing conductive material and a surfactant, and then mixing in the active material. The binder (rubber) of Ito is mixed with a solvent to disintegrate the rubber, and this is then mixed in with the active material. As addressed above, Scherson also fails to disclose the use of two separate mixtures applied separately to manufacture one electrode layer.

Neither reference provides any motivation to one skilled in the art to separate the mixtures as recited and increase the manufacturing steps. As a matter of fact, Ito makes clear that as long as a rubber-based emulsion, activated carbon particles, conductive particulates and a surfactant are contained in the material and mixed in the steps described in paragraphs [0071] to

[0072], the method is not limited. Ito in essence teaches away from the use of any other mixtures. Applicants specifically teach against mixing in advance of applying the active material and binder in at least paragraph [0037].

Accordingly, the combination of Ito and Scherson fails to render obvious the method of claim 1 and claims 2-6, 8, 10 and 15-18 by their dependency. Applicants submit that these claims are allowable over the cited references.

Claim 7 is rejected under 35 U.S.C. §103(a) as being unpatentable over Ito (US 2005/0116375) in view of Scherson (WO 01/80338) as applied to claims 1 and 4 above, and further in view of Ito et al. (US 6,447,571). Claim 7 depends from claim 1 to include all of the limitations therein. As explained above, the combination of Ito and Scherson fails to render obvious claim 1 as neither teaches or suggests the elements of claim 1. Ito '571 also fails to teach or suggest using two separate mixtures including the components recited and applying the two mixtures separately to form an electrode. Accordingly, adding Ito '571 to the combination of Ito and Scherson also fails to teach or suggest the features of claim 1, and accordingly the features of claim 7 at least by its dependency. Applicants submit that claim 7 is allowable over the cited references.

Claim 9 is rejected under 35 U.S.C. §103(a) as being unpatentable over Ito (US 2005/0116375) in view of Scherson (WO 01/80338) as applied to claim 4 above, and further in view of Shimizu et al. (US 5,707,763). Claim 9 depends from claim 1 to include all of the limitations therein. As explained above, the combination of Ito and Scherson fails to render obvious claim 1 as neither teaches or suggests the elements of claim 1. Shimizu et al. also fails to teach or suggest using two separate mixtures including the components recited and applying the two mixtures separately to form an electrode. Accordingly, adding Shimizu et al. to the combination of Ito and Scherson also fails to teach or suggest the features claim 1, and accordingly the features of claim 9 at least by its dependency. Applicants submit that claim 9 is allowable over the cited references.

Conclusion

It is submitted that this Amendment has antecedent basis in the Application as originally filed, including the specification, claims and drawings, and that this Amendment does not add any new subject matter to the application. Reconsideration of the Application as amended is requested. It is respectfully submitted that this Amendment places the Application in suitable condition for allowance; notice of which is requested.

If the Examiner feels that prosecution of the present Application can be expedited by way of an Examiner's amendment, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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A handwritten signature in black ink, appearing to read "Francine Nesti", written in a cursive style.

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